

[LASER ANNEALING APPARATUS AND LASER ANNEALING PROCESS]

Abstract

A laser annealing apparatus is disclosed, which is adapted for a laser annealing process. The laser annealing apparatus comprises a laser-generating module, a resistance-measuring module, and a host circuit module, wherein the laser-generating module provides a laser beam to recrystallize an amorphous silicon thin film to form a polysilicon thin film. The resistance-measuring module is adapted for measuring the sheet resistance of the polysilicon thin film. Besides, the host circuit module is electrically coupled to and between the laser-generating module and the resistance-measuring module. The host circuit module outputs a feedback signal to the laser-generating module in accordance with the sheet resistance value. Then, the energy density of the laser beam is optimized. The laser annealing apparatus can improve the quality of the thin film, and increase the yield rate of the laser annealing process.